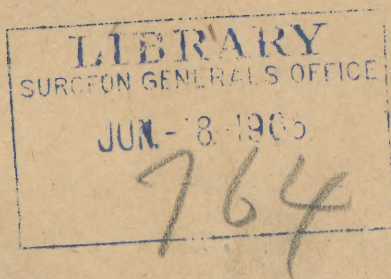


HEKTOEN (L.)

Sudden death from  
pulmonary embolism &







**SUDDEN DEATH FROM PULMONARY EMBOLISM FOLLOWING THROMBOSIS OF THE INTERNAL JUGULAR VEIN IN A CASE OF CARCINOMA OF THE NECK SECONDARY TO CARCINOMA OF THE TONGUE.**

BY LUDVIG HEKTOEN, M.D.

Professor of Pathology in Rush Medical College; Pathologist to the Cook County Hospital,  
Chicago.

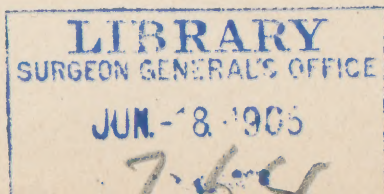
The following post-mortem of a case of sudden death is reported without comment, as an additional striking example of unexpected, practically instantaneous death from embolism of the main stem of the pulmonary artery.

A woman, 67 years old, was operated on for carcinoma of the left half of the tip of the tongue—partial excision—one year previous to admission into the service of Dr. Chas. Adams, in the Cook County Hospital, on account of a secondary infiltration in the tissues of the left side of the neck. On Nov. 6th, 1898, this mass was removed by a painstaking dissection, during which the large vessels of the neck were laid wholly bare. The patient recovered readily from the operation and anæsthesia, and seemed to be doing very well for the following twenty-four hours, at the end of which, and without any warning, she suddenly became cyanotic and expired. The agony lasted perhaps one minute or so, according to Dr. Low, who witnessed the final scene. The post mortem was made before a class of students forty-eight hours later.

**Anatomical Diagnosis:** Partial excision of tongue, healing; recent extensive dissection on left side of neck; parietal thrombosis of left carotid artery; thrombosis of the left internal jugular vein; embolism of pulmonary artery; bloody hydropericardium; chronic granular pericarditis; arteriosclerosis (minimum degree); bronchitis; adhesive pleuritis; chronic nephritis; fibromyoma of uterus.

The body is that of an old, well developed, fairly well nourished woman; rigor well marked; usual posterior lividity.

In the skin of the left side of the neck, along the anterior margin of the sterno-cleido-mastoid muscle, runs a recent, sutured incision, 9 cm. long, which leads into an extensive cavity lined with a reddish-gray, velvety tissue and partly filled with moist strands of gauze, the ends



of which emerge through two small openings in the skin of the back part of the neck. Along the floor of this cavity run the deep cervical vessels, which have been dissected free from their normal connections. The upper part of the internal jugular vein, which is distended, contains adherent, grey and granular thrombic masses; the lower part of the vein is empty. The internal carotid is rough in one place, over which there is a thin layer of fibrin.

The peritoneal cavity is empty and its lining smooth and free from adhesions. The right pleural cavity is empty, its lining smooth; the left pleural cavity is largely obliterated by firm, fibrous adhesions. The pericardium is distended with bloody fluid which does not contain any clots. There are no openings in any of the subpericardial vessels. The lining of the pericardium is rough and granular, due to firm, fibrous thickenings.

The stem of the pulmonary artery is distended; upon opening it two large, yellowish-gray, granular, rough cylindrical masses fall out; each is about 5 cm. in length and 2 cm. in the greatest transverse diameter; rolled up between these masses are fibrinous casts of smaller, dichotomously branching vessels.

The heart weighs 300 gms., the endocardium is smooth, the heart muscle rather loose in texture, free from interstitial changes; the coronary arteries are quite smooth. The beginning of the aorta is rather rough and contains yellowish, raised areas and a few calcareous plates.

The lining of the pharynx, oesophagus, larynx, and trachea is smooth. The left half of the tongue anteriorly shows an extensive loss of substance; in the contracted scar which binds this part to the floor of the mouth there is no sign of any tumor-growth.

Both lungs crepitate; their substance contains only a moderate amount of blood; in the bronchi is a small amount of muco-pus. The peribronchial lymph glands are prominent and black.

The spleen weighs 120 gms., and does not show any changes. The liver weighs 1450 gms.; there is a shallow furrow extending transversely across the two lobes of the liver, at the junction of their lower and middle thirds approximately. The liver is rather yellowish, of uniform consistency, and contains much blood. The gall bladder and biliary ducts are normal. The pancreas weighs 80 gms.; the cut surface is normal. The stomach and intestines are also quite normal.

The kidneys weigh 250 gms., their capsules adhere, the cortex is deep-red, thinner than normal, and the cortical markings indistinct; the pelvis, ureters, and bladder are free from changes.



The left angle of the uterus, which is normal in size, contains a round tumor as large as a pigeon's egg, of firm consistency, whitish color, and a concentric fibrillated structure. The ovaries and tubes are normal.

The abdominal aorta and its large branches are quite smooth.

The brain and its membranes were not examined because of refusal of permission to do so.

Remarks: In conclusion the remark must be made that it is quite evident that the thrombus in the internal jugular vein had formed a considerable time before the operation, most likely on account of the pressure of the surrounding tumor infiltration. Undoubtedly the manipulations of the thrombosed vein incident to the operation may have had something to do with the loosening of the mass that finally floated out into the circulation and on lodgment completely occluded the pulmonary artery.







